

EXAMINATION OF SOCIAL AND ECONOMIC ELEMENTS
RELATED TO THE CONSTRUCTION OF
THE HODGES VILLAGE RESERVOIR



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PLAN OF STUDY
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OF HODGES VILLAGE DAM AND RESERVOIR
OXFORD, MASSACHUSETTS

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PLAN OF STUDY
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OF HODGES VILLAGE DAM AND RESERVOIR

A. Introduction

1. Location and Description

The Hodges Village Dam and Reservoir was constructed as a single purpose flood control project on the French River. It is located in the town of Oxford, in the upper Thames River Basin of South Central, Massachusetts. The dam site is near Hodges Village, about 10 miles south of Worcester and 5 miles upstream of Webster, Massachusetts. Construction of the Hodges Village Dam and Reservoir project was authorized by an Act of Congress, approved 18 August 1941, Public Law 228, 77th Congress, and the Flood Control Act of 22 December 1944, Public Law 534, 78th Congress. The project was started in 1958 and completed in 1959 at a total Federal cost of \$4,421,000. No local costs were required.

Hodges Village Dam is operated as one unit in the overall comprehensive plan of flood protection in the Thames River Basin. Since implementation of the project there have been major reductions in flood damages at Webster and Dudley, Massachusetts and Thompson, Connecticut. In addition, flood damages are materially reduced at damage centers extending from Putnam, Connecticut, on the Quinebaug River, downstream to Norwich on the Thames River. Flood damages prevented through 1976 amount to \$2,832,000.

2. Study Authorization

This study was authorized by Section 216 of the Flood Control Act of 1970 Title II of Public Law 91-611 which reads as follows:

"The Secretary of the Army, acting through the Chief of Engineers, is authorized to review the operation of projects, the construction of which has been completed and which were constructed by the Corps of Engineers in the interest of navigation, flood control, water supply, and related purposes when found advisable due to the significantly changed physical or economic conditions, and to report thereon to Congress with recommendations on the advisability of modifying the structures or their operation, and for improving the quality of the environment in the overall public interest."

The work was completed in accordance with Contract DACW 33-77-C-0066
Work Order No. 14.

B. Plan of Study

3. Purpose

The purpose of this study is to examine the social and economic elements possibly impacted by the construction of the Hodges Village Reservoir. The major tasks for accomplishing this work are: profiling the preproject condition, projection of the preproject condition, profile of the existing condition. This material will be used to make a comparison of projected conditions with the existing conditions to provide insight into the effect of reservoir construction on the direction of growth and development in Oxford, Massachusetts.

C. Profile of Preproject Conditions

4. Historical Origins

The first visitors to Oxford were the Missionaries, John Eliott, and his friend, Daniel Gookin of Natick, who were sent by the London Society for the Propagation of the Gospel in New England. In 1674 Eliott and Gookin visited among the Nipmuck Indians who numbered about twelve families. The Nipmucks were subject clans of little spirit or distinction. Their number was small, dwellings poor, utensils and weapons rude and scanty. They raised corn and beans and wove mats and baskets but most of their time was spent in idling, fishing or hunting. Their settlement is believed to have been at the site of the park at East Main and Main Streets. The stone they ground corn in is still there.

The Oxford land grant of 41,250 acres or about sixty five square miles was made by the General Court of England in May 1683. At that time all of Charlton, Webster, the northern part of Dudley and Southbridge, eastern part of Sturbridge, the southern part of Auburn and Leicester and at times land of Millbury, Sutton and Douglas were part of Oxford. Charlton withdrew in 1753 or 1754 and Webster in 1831. Oxford at that time was divided equally among five absentee proprietors, Major Robert Thompson, Dr. Daniel Cox and John Blackwell of London, and William Stoughton, Esq. and Joseph Dudley, Esq., of Boston.

The first settlers were the Huguenots, who were driven out of France by the Edict of Nantes because of their religious beliefs. During the summer and autumn of 1686 the Huguenots arrived in Boston, and came to Oxford in 1687. The Huguenot settlement, dated 1687 or thereabouts, lasted but a few years.

The Huguenots were the Merchants, Industrialists, and Craftsmen of France. In the time they were in Oxford they built a Grist Mill, a Saw Mill, a Glove Factory, a Church and a Fort, and a Garrison House to live in. At first, they got along well with the Indians. New France, which is now Canada, did not like the idea of this settlement and fought with the Indians to drive them out. The fur traders traded rum for their furs, which disturbed the Indians. Being urged on by the French Canadians the Indians attacked the settlement in what is now known as the Johnson Massacre. The remaining Huguenots bundled up their goods and returned to Boston. They came back twice to try to make a successful settlement, but were finally forced to give up the grant. The 1713, thirty English families from in and around Boston came to Oxford and made the first permanent settlement.

In the first hundred years the chief industry of the town was agriculture. In 1715 the English settlement started a grist mill. In 1745 was the first tannery, and potash was the only article for sale before 1800. Saw mills were built in 1788, and they were making scythes and nails in 1792. In 1798 the manufacture of pig iron at South Oxford, now East Village, Webster, was started.

In the next hundred years Oxford became industrialized from the sale of manufactured products produced in newly built shops and mills. There was in 1806, the operating of wool carding machines. Then followed cotton spinning by machinery, a dye house, the manufacturing of cotton and woolen goods, making of broadcloth, shoes, chaise, and harness. In 1822 water power for manufacturing purposes was used. The manufacture of cotton thread, friction matches, pistols and rifles, were begun. These small industries continued to grow and new ones started, until Oxford was known throughout New England for its school of artisans in millwrighting, fullingmills and shafts.

The following lists the major industrial activities found in Oxford in the 19th and 20th centuries.

The manufacturing of boxes was started in 1851 and continued in later years by the Chaffee Brothers until 1961, in a building on Route 12, now occupied by the Webster Spring Co.

The Edwin Bartlett cotton mills in North Oxford began in 1870 and ran until about 1936. Part of it is now the Krintzman Dusting Mill and the I. Edinberg Co. building on the French River adjacent to Route 12, north of the Reservoir.

Along the French River, George Hodges' mill successfully produced a single line of fine flannel from 1846 until his death in 1881. In 1882 Andrew Howarth became the proprietor, and his company continued to manufacture fine flannel until 1936. Known today as Hodges Village, the original mill building remains downstream of the Hodges Village Dam.

The A. L. Joslin Shoe Co. established in 1870 ran until about 1914 when it became the Dolge Slipper Shop and is now the Grosvenor Shoe Co.

The Thayer Woolen Co., started in Texas Village in 1886, is now the Stanrich Mills Corp., located on Route 12 north of the Reservoir.

David N. Taft Satinet Mill located first in North Oxford in 1875, then a mill was built on Lowe's Pond in 1887. This was sold to the Oxford Prest Wheel in 1947.

The Rhodes Mill in North Oxford, later bought by the Thayer Woolen Co., is now known as the North Oxford Garnetting Co. owned by George Saad and Sons.

The mills at White Village were started as lumber mills by David and Stephen Barton in 1833 and were later sold to Edwin N. Bartlett, then the Ivanhoe Mills and finally the Connecticut Cordage Co.. They were torn down in 1961 because of the Flood Control Project.

The first mill using the water power at Cominsville was built in 1754. In 1881 E. I. Comins and Company operated a Satinet Mill. It is now Allon Textile, Inc.

The Buffim Mill located on the Little River started as a grist mill in 1818, later became a Woolen Mill. It was run by the Dolge Company as a felt mill until the Whitaker Company of Northboro bought it and ran it as a Garnetting Mill. It is now the Gordon Chemical Company. (4-1)

During the last few decades the general decline of the textile industry in New England changed the Town of Oxford and the surrounding towns' independent industrial characteristics to one of dependence on the major urban core of Worcester. Today Oxford is primarily a residential suburb. There are 26.71 square miles of land (27,194 acres) which is one third less than the original settlement.

5. Socio-Economic Conditions

a. Population, Ethnicity and Population Trends

Historical population from the Annual Town Reports indicate a relatively stable population in Oxford following the industrial period of the 1800's. At the turn of this century, the Town had approximately 3000 residents and there was little growth for the first three decades of this century. The following table lists the population and population trends in five and ten year increments from 1900 to 1960, one year after completion of the Hodges Village Dam and Reservoir.

4-1 Oxford Historical Society, Oxford Massachusetts 1713 to 1963, 250th Anniversary, Oxford, Massachusetts, 1963.

Table 1 (5a-1)

OXFORD POPULATION AND POPULATION CHANGE

1900-1960

<u>Date</u>	<u>Popula- tion</u>	<u>Five Year Increase</u>	<u>Five Year Percent</u>	<u>Ten Year Increase</u>	<u>Ten Year Percent</u>
1900	2,677				
1905	2,927	250	9.3		
1910	3,361	434	14.8	684	25.6
1915	3,476	115	3.4		
1920	3,820	344	9.9	459	13.7
1925	4,026	206	5.4		
1930	3,943	-183	-2.1	123	3.2
1935	4,249	306	7.8		
1940	4,623	374	8.8	680	17.2
1945	5,022	399	8.6		
1950	5,851	829	16.5	1,228	26.6
1955	7,777	1,926	32.9		
1960	9,282	1,505	19.4	3,431	58.6

Source: U.S. Census data and U.S. Census and I.R.S. figures.

Scanning the "Five Year Percent" column, one can see that the first two decades of this century were ones of population growth with only the period 1910-1915 marked by a low growth figure. Then, like many northern towns, Oxford suffered population losses in the 1920's due in part to a state-wide trend that saw much of the Massachusetts manufacturing industry head to the South for cheaper labor and less expensive raw materials. Despite the economic and social dislocations of the 1930's and early 1940's, Oxford showed consistently strong population growth.

5a-1 Town of Oxford Planning Board, Design for Progress, A Master Plan for the Town of Oxford, David A. Booth Research Associates
August, 1976, page 26

The post-World War II "boom" produced unprecedented surges; from 1950 to 1960 Oxford's population increased by an astounding 58%. Veterans were building homes with FHA assistance and economic prosperity seemed to follow the routes of new and improved highways into suburban and rural areas which had not previously been tapped as sites for new homes and businesses.

This rapid expansion of Oxford's population between 1945 and 1960 was comprised largely of young families, the offspring of which swelled the elementary school ranks a few years later. (5a-2)

Specific data regarding the age composition of the Town's population immediately prior to construction of Hodges Village Dam and Reservoir in 1959, is not available. The data contained in the 1960 U.S. Census is as follows:

Table 2 (5a-3)
MAJOR AGE GROUPINGS IN 1960

<u>AGE</u>	<u>POPULATION</u>	<u>PERCENT OF TOTAL</u>
Under 5	1,326	14.3
5-14	2,233	24.1
20-34	1,743	18.8
35-49	1,899	20.5
65 and over	585	6.3

The median age of Oxford's males and females in 1960 was 25.5 years and 26.4 years, respectively.

The ethnic makeup of Oxford in the 1960 U. S. Census is shown in Table 3.

5a-2 Ibid. Page 27

5a-3 U. S. Census Bureau

Table 3 (5a-4)

FOREIGN BORN, FOREIGN STOCK, COUNTRY OF ORIGIN 1960

<u>Classification or "Country of Origin"</u>	<u>Population</u>	<u>Percent of Total</u>
Foreign Born	359	3.9
Foreign Stock	2382	25.7
Native	<u>6511</u>	<u>70.4</u>
"Canada"	1120	
"Eire"	166	
"Italy"	89	
"Sweden"	136	

The racial mix in 1960 listed 9 Negro and 10 other non-whites which represents 0.2% of the total population. (5a-5)

For the 5 year period prior to construction there was a significant in-migration of population as well as a natural increase of population.

Table 4 (5a-6)

NATURAL INCREASE AND ESTIMATED MIGRATION 1955-1959

<u>Year</u>	<u>Births</u>	<u>Deaths</u>	<u>Natural Increase</u>	<u>In-Migration</u>
1955	227	65	162	139
1956	230	61	169	132
1957	228	71	157	144
1958	246	67	179	122
1959	226	64	162	139

5a-4 Ibid.

5a-5 Ibid.

5a-6 Martyn J. Bowden, Ph.D. et al, Expressway and the Town, January 1967, Table 1b.

"In the same period (1955) Oxford had the highest birth rate and fertility ratio in Central Massachusetts." (5a-7)

b. Work Patterns

In 1960 the total civilian labor force in Oxford was 3,462 which represented 37.3% of the total population. Of this total 164 were unemployed or a 4.7% unemployment rate. Table 5 presents the occupational categories of the employed labor force in 1950 and 1960.

Table 5 (5b-1)

OCCUPATION OF THE EMPLOYED LABOR FORCE 1950 & 1960

<u>Occupation</u>	<u>1950*</u>	<u>% of Total</u>	<u>1960</u>	<u>% of Total</u>
Professional, Techn'l & kindred wkrs.	73	6.6	202	6.2
Farmers and Farm Managers	9	0.8	46	1.4
Managers, Offs. & Propr's, exc. Farm	91	8.2	148	4.6
Clerical & kindred wkrs.	126	11.4	423	12.8
Sales Workers	63	5.7	199	6.0
Craftsmen, Foremen, & kindred wkrs.	240	21.8	710	21.5
Operatives & kindred wkrs.	392	35.5	1028	31.1
Private Household wkrs.	8	0.7	41	1.2
Service wkrs, exc. private household	47	4.3	221	6.7
Farm laborers & foremen	7	0.7	18	0.5
Laborers exc. farm & mine	40	3.6	78	2.4
Occupation not reported	7	0.7	184	5.6
Total Employed	1103	100.0	3298	100.0

*Oxford unincorporated area only, which represents 55% of Town population
5a-7 Ibid

5b-1 U.S. Census Bureau

Table 6 lists the industry of the employed labor force for 1950 and 1960.

Table 6 (5b-2)

INDUSTRY OF THE EMPLOYED LABOR FORCE 1950 & 1960

<u>Industry</u>	<u>1950*</u>	<u>% of Total</u>	<u>1960</u>	<u>% of Total</u>
Agriculture, Forestry & Fisheries	17	1.5	64	1.9
Mining	0	0	0	0
Construction	97	8.8	174	5.3
Manufacturing	606	55.0	1648	50.0
Transport., Commun. & other Public Util.	61	5.5	187	5.7
Wholesale & Retail Trade	134	12.2	468	14.2
Business & Repair Service	30	2.7	45	1.3
Personal Service	38	3.4	94	2.9
Professional & Re- lated Service	76	6.9	236	7.2
Public Administration	30	2.7	79	2.4
Industry Not Reported	14	1.3	303	9.1
Total Employed	1103	100.0	3298	100.0

* Oxford unincorporated area only, which represents 55% of Town population.

As the above data indicates, the manufacturing industry dominated the work patterns of the Oxford labor force prior to construction of the Hodges Village Dam and Reservoir. This pattern was typical in central Massachusetts and the entire Commonwealth during the period of 1950 to 1960. The U. S. Census reveals that the Worcester SMSA lost 8,900 manufacturing jobs from 1950 to 1960 and total nonagricultural employment declined by 4,500 during the same period. (5b-3)

5b-2 Ibid.

5b-3 Ibid.

Table 7 lists the employment patterns within the Town of Oxford prior to completion of the Hodges Village Dam.

Table 7 (5b-4)								
Year	Annual Payroll (000)	# of Estb.	Total Employ.	Contract Const.	Mfg.	Trans. Util.	Whole- sale Retail Trade	Services
1950	\$1,077	76	549	61	316	6	138	28
1955	2,550	103	860	101	517	4	201	37
1956	3,042	109	1033	117	617	6	235	58
1957	2,895	113	913	102	561	8	204	37
1958	1,963	100	581	84	275	5	171	46
1959	2,634	94	573	96	258	6	166	47

As shown in this table, there was a substantial loss of employment from 1957 to 1958 which coincides with the construction period of Hodges Village. The Massachusetts Division of Employment retains employment records only by the Standard Industrial Classification (SIC). These records show that the major employment loss in manufacturing consisted of one less firm with approximately 185 employees in the Metal Stamping classification (346).

The remainder of the decline was 100 jobs in the Wooden Container classification (244). Losses in the wholesale retail trade sector were in the Eating and Drinking Place classification (581).

The commuting patterns of certain manufacturing employees living in Oxford and surveyed in 1960 are listed as follows: (5b-5)

Worcester	398	Millbury	16
Auburn	21	Oxford	94
Charlton	16	Shrewsbury	4
Leicester	128	TOTAL	583

5b-4 Massachusetts Division of Employment Security, Wages and Employment by Standard Industrial Classification, Boston, Massachusetts

5b-5 Massachusetts Department of Commerce and Development, Manufacturing Commuting Survey, 1963.

This indicates that for the major employment classification in Oxford, 84% of this group was employed in other communities with 68% commuting to the City of Worcester.

c. Education

The educational system of Oxford, as in most towns, is a function of the educational horizons of its citizens and the demand for services created by school enrollment. In 1960, the years of school completed was listed in the U. S. Census and are highlighted in the following table:

Table 8 (5c-1)

YEARS OF SCHOOL COMPLETED 1960

Persons 25 yrs. or over	1 year or more college	Percent	4 years or less of school	Percent	Median School Yrs. Completed
4757	502	10.6	128	2.7	10.7

The population of Oxford prior to construction of Hodges Village did not include a significant number of persons with educational levels beyond the public system offered by the Town.

The demands of school enrollment in Oxford were increasing significantly from 1945 to 1957 due to the high birth rates and in-migration resulting from residential housing construction. During this 12-year period, the first grade enrollment doubled from 150 to in excess of 300. (5c-2)

In 1957 the birth rate peaked and began to decline. Town records for public school enrollments were compiled as follows:

5c-1 U. S. Census Bureau

5c-2 John E. Marshall, Consultant, School Building Needs, Oxford, Massachusetts, Chart I, August, 1965.

Table 9

SCHOOL ENROLLMENT 1950-1960

<u>Year</u>	<u>School Enrollment</u>	<u>Percent Greater than 1950</u>
1950	1110	71.2
1957	1900±	71.2
1958	2108	89.0
1960	2296	106.8

The above referenced study conducted in 1965 concluded that the quality of schools in Oxford was poor and that immediate improvements were necessary.

"The level of expenditure per pupil at which Oxford's public schools operate has long been the lowest in Worcester County and one of the very lowest in the State." (5c-3) Listing specific data for per pupil expenditures, teacher salaries and qualifications, student-teacher ratios, and building capacities, the above-referenced study cited a school system long suffering from a lack of strong educational leadership, community commitment, and one operating in a downward spiral. The immediate needs in 1965 were to construct a new high school, convert the existing high school to a middle school, grades 6 and 7, and consolidate the three good elementary schools to grades 1 through 5, and abandon one elementary school (5c-4).

d. Housing

In the 1960 U. S. Census there were 2589 housing units available in Oxford, 36.0% of which were built from 1950 to 1960, 14.2% built from 1940 to 1949 and 49.8% predating 1940. Residential construction in Oxford for the five year period prior to construction of the Reservoir was as follows: (5d-1)

5c-3 Ibid. Page 5
5c-4 Ibid. Page 25
5d-1 U. S. Census Bureau

Table 10 (5d-2)

RESIDENTIAL CONSTRUCTION 1955-1959

	<u>1955</u>	<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>TOTAL</u>
Oxford	84	125	133	70	32	444

This five year construction period accounted for 17.4% of the available units in 1959. The 1960 Census also revealed that 16.5% of Oxford's housing was deteriorating or dilapidated.

Other parameters of the housing conditions noted in the 1960 Census are as follows:

Table 11 (5d-3)

TENURE AND VACANCY STATUS 1960

Owner Occupied	71.9%
Renter Occupied	23.7%
Available Vacant	1.5%
Other Vacant	2.9%

Table 12 (5d-4)

VALUE OF OWNER OCCUPIED UNITS 1960

Median Value	\$11,100
Value less than \$10,000	30.8% of Units
Value to \$10,000 to \$20,000	66.8% of Units
Value to greater than \$20,000	2.4% of Units

-
- 5d-2 Central Massachusetts Regional Planning Commission, Population Studies for the Central Massachusetts Regional Planning District, Worcester, April 1967, Table 26B.
5d-3 Ibid. Table 12
5d-4 Ibid. Table 11

Table 13 (5d-5)

GROSS RENT (INCLUDES GAS, WATER, ELECTRICITY) 1960

Median Rent	\$68.00 per month
Less than \$40	5.4% of Units
\$40 to \$100	82.1% of Units
Greater than \$100	5.4% of Units

The above data reveals that the Town of Oxford prior to construction of the Hodges Village Reservoir had a rather large proportion of low value owner occupied units and that one fourth of the housing units were renter occupied.

e. Income

Family income for Oxford in 1959 is reported in the 1960 U. S. Census as follows:

Under \$3,000	210 Families
\$3,000 to \$5,000	505 Families
\$5,000 to \$7,000	798 Families
\$7,000 to \$8,000	270 Families
\$8,000 to \$10,000	239 Families
Over \$10,000	260 Families
TOTAL	2,282 Families

The median family income in 1959 was \$5,897. In 1949, the median family income was \$2,953. For the 10-year period prior to construction of Hodges Village the median family income increased by 99.7%.

For 1959, Oxford's median family income was \$161 less than the Worcester SMSA median family income of \$6,058. In 1949, the median family income was \$231 less than the Worcester SMSA median family income of \$3,274. (5e-1)

5d-5 Ibid. Table 14

5e-1 U.S. Census Bureau

f. Economic Activities and Structures

The economic structure of Oxford typifies its New England heritage being initially an agricultural based economy in the 17th century; shifting to manufacturing textiles and apparel during the 19th century; and continuing the reliance upon manufacturing in the early 20th century. As the decline of the textiles industry began to seriously depress the New England economy, Oxford shared in the decline and became an exporter of labor to the larger manufacturing centers of central Massachusetts.

Due to the undeveloped nature of the Town following World War II, its attractiveness for single family residential construction further accelerated the decline of the economic base by accelerating the demand for municipal services without a corresponding increase in the industrial tax base.

The following table illustrates that during the late 1950's the assessed valuation of the Town was increasing rather slowly during a peak period of residential construction and decline in total employment opportunities within Oxford. Also shown is a tax rate increase from 1955 to 1960 of 54.2%.

Table 14

TAX ASSESSMENT, RESIDENTIAL CONSTRUCTION AND OXFORD EMPLOYMENT 1955-1960

Year	Assessed Valuation (5f-1)	Tax Rate (5f-2)	Residential Construction (5f-3)	Total Employment (5f-4)	Manufacturing Employment (5f-5)
1955	\$12,660,510	\$35	84	NA	NA
1957	\$13,533,390	\$45	133	NA	NA
1958	\$13,785,730	\$48	70	590	283
1959	\$13,987,990	\$48	32	574	258
1960	\$14,334,330	\$54	NA	569	248

5f-1 Oxford Annual Town Reports

5f-2 Ibid

5f-3 Central Massachusetts Regional Planning Commission, Population Studies for the Central Massachusetts Regional Planning District, Worcester, April 1967, Table 26B

5f-4 Commonwealth of Massachusetts Department of Revenue, Mass. Cities and Towns Employment and Wages, 1958 to 1966, Boston, Massachusetts

5f-5 Ibid

The business structure of Oxford during the 1950's was examined in the "Expressway and the Town" and is summarized here. Oxford was over-supplied with gas stations, under-stocked with grocery units, under-supplied with dentists and physicians; deficient in the number and types of retail stores, and could have supported an additional bank.

Furthermore, a lack of zoning and planning allowed a highly linear-dispersed pattern of retail and service development along Route 12 by those commercial establishments which entered Oxford in this period. Consequently, the scattered business attractions held marginal interest for shopping activities in competition with the more concentrated business centers of Auburn and Worcester. (5f-6)

g. Land Use

The first definitive effort by the Town relative to land use and zoning was a study conducted for the Oxford Planning Board by The Planning Services Group of Cambridge, Massachusetts. This effort resulted in "Population, Economic and Land Use Trends in the Town of Oxford," May 1961, and the presentation of a Proposed Zoning By-Law. Copies of this study could not be found during this research but the proposed zoning map and by-law were obtained.

Since no local land-use plans or zoning existed prior to construction of Hodges Village the research focused on U.S. Geological Survey (U.S.G.S.) maps, the studies by William P. MacConnel and William Niedzwiedz of 20 years of change in Worcester County 1951 to 1971, and the Corps of Engineers Design memos.

A review of the 1886-87 U.S.G.S. "Webster" map for the Town of Oxford displays the structural developments along the old Route 12 in the center of Oxford and in North Oxford. Within the impoundment area there were two structural developments; the first being the mill complex at

5f-6 Martyn J. Bowden, Ph.D., et al, Expressway and the Town, January 1967, Part IV

Hodges Village and second, the mills at White Village which was on Route 12 at Depot Road (the northerly border of the impoundment). The Webster Branch of the Boston and Albany Railroad and Old Howarth Road also traversed through the impoundment.

A review of the 1953 U.S.G.S. Quadrangles revealed significant structural developments in the center of town and along the north-south Route 12 corridor. Branching east and west of Route 12 the structural developments were essentially contiguous with the roadway network displayed on the 1886 maps.

Within the impoundment area the flood plain of the French River is clearly identified including Cedar Swamp. The swamp symbol of the 1953 U.S.G.S covers at least 50% of the impoundment and the remainder is open land except for the small development at Hodges Village, the strip development along Route 12 and the beginnings of the residential development known as Greenbriar.

The Remote Sensing Land Use Classification developed by MacConnell and Niedzwiedz was based on aerial photos of the Commonwealth taken by the Department of Natural Resources (DNR) and superimposed on U.S.G.S. Quadrangles. The resurrection of these photos was not feasible, given the time constraints of this Study, but they are available from DNR.

For Oxford in 1951 the land use was classified as follows:

Table 15 (5g-1)

<u>LAND USE 1951</u>		
<u>Type</u>	<u>Acres</u>	<u>% of Total</u>
Forest Land	11,508	65.9
Agriculture or Open Land	4,239	24.2
Wet Land	1,069	6.1
Urban Land	664	3.8
Totals	17,480	100.0

5g-1 University of Massachusetts at Amherst, Remote Sensing 20 Years of Change in Worcester County 1951 to 1971, by William P. MacConnell and William Niedzwiedz, pg. 124

The U.S. Army Corps of Engineers Design Memo No. 4, of January 1957 contained the following general description of the impoundment area.

The land in the Hodges Village Project area may be described generally as slightly hilly, this topographical feature necessitating the construction of three dikes which will close saddles in the reservoir perimeter. The French River has carved a shallow valley through the area which will form the proposed reservoir bed. Several private dams have been built in the past along the French River to supply water power for nearby mills; however all of these dams were breached during the 1955 floods and the small mill ponds no longer exist. The land is almost entirely wooded with the exception of small tillage areas and two housing developments in the northern reach of the proposed reservoir. The two (2) housing developments consist of more than 200 modern houses that have been built within the last 5 years. Today Oxford is considered a popular bedroom Town for the City of Worcester, appealing to the middle income group of people. The popularity has been created by the several housing developments in the northern sections of town that were created by the Oxford Builders Company. In most cases the houses in the developments, particularly the "Greenbriar Area", have been sold prior to their completion and in some instances the homes have been resold for more money than a new, similar home could have been purchased.

To the south of the "Greenbriar Area" going towards the damsite, the demand for land greatly diminishes. This is due to the influences of Hodges Village. Hodges Village is an old mill type area which is predominantly occupied by the lower income group. The age and poor maintenance of the existing properties tend to keep property values and the demand for land in this area in a stagnant condition. There is no evidence of indications that this condition will be altered in the foreseeable future. (5g-2)

5g-2 Corps of Engineers, U.S. Army, Hodges Village Project, Design Memo No. 4, Real Estate Part II, Boston, MA, January 1957 pg. 3-5

There is no evidence of the presence of minerals or mining in the area to be acquired. There are 3 actively operated gravel pits within the purchase area.

The timber within the reservoir area is predominantly mixed hardwoods. The timber lots are not large enough to support economical operation, therefore the timber values are reflected in the land value.

The change in land utilization in this locus within the last few years has been from open areas to residential development. This fact is supported by the minor residential developments along Rocky Hill Road and the major developments in the "Greenbriar Area".

The land values in the reservoir taking area are inflating. The rise in value is fairly rapid and is due to the demand of developable land near Route #12 and in the northern section of Oxford, by the working force at Worcester, Massachusetts. Since the initial studies of this reservoir were made, there has been extensive construction of modern homes and subdivisions in open areas prior to and subsequent to the August 1955 flood.

There are no zoning regulations in the town of Oxford, therefore there are no restrictions. (5g-3)

The relocation impacts of the reservoir impoundment area are summarized as follows:

- ° Railroad - Relocated portion of Webster Branch of the Boston-Albany Railroad within reservoir limits
- ° Highways - Relocated 0.25 miles of Old Howarth Road at damsite 0.65 miles of State Route 12, and abandoned all other local roads within reservoir limits
- ° Utilities - Relocated 3.6 miles of telegraph, telephone and electric lines; 3 miles of 23,000 volt transmission line

5g-3 Ibid pg. 11

- ° Cemeteries - Relocated several graves within North Cemetery owned by Town
- ° Water Rights - Nuisance value compensation for rights to Thistle Fabric Mill and Connecticut Cordage Company
Both mills drew water from ponds whose dams were destroyed by the 1955 floods
- ° Structures - Abandoned or relocated more than 130 residences 2 farms, 3 commercial properties, 3 industries and replacement of two private water company pumping stations with wells. The 3 industries in the Connecticut Cordage complex were located in the upper reaches of the reservoir area and consisted of a 3 story granite heavy mill type structure and a wooden framed 1 story building. The three commercial units consisted of a confectionary store, a "Tastee Freeze" ice cream stand, and a bakery.
- ° Land Locked Parcels - Severence damages for potentially developable land owned by developers. (5g-4)

The relocation impacts of the damsite are as follows:

- ° Structures - Nine residences, one farm unit and the combination church, school and recreational center for Saint Mary's Albanian Church of Worcester.
- ° Water Rights - the downstream limits of the site are at the breached dam owned by Oxford Looms Inc. (formerly Hodges Village Mill) (5g-5)

On balance, the lack of planning and zoning in Oxford prior to construction of Hodges Village allowed land use patterns to develop at the will of the market forces. During the 1950's the market demands were essentially single family residential housing. As such, the housing market was consuming the developable land within the impoundment up to the decision time for the proposed flood control project after the August 1955 flood.

h. Community Life

The quality of community life in Oxford following World War II was similar to most small towns in New England. A random review of newspapers and clippings of Town highlights revealed a profile of small town

5g-4 Ibid pg. 12-15

5g-5 Corps of Engineers, U.S. Army, Hodges Village Project, Design Memo No. 4, Real Estate Part I, Boston, MA August 1956 pg. 4

living in central Massachusetts.

During the 1950's Oxford's citizens participated in more than 20 civic and charitable organizations such as Rainbow Girls, Jaycees, Scouting, PTA groups, political town committees, Little League etc. Reviewing front page newspaper articles, some problems faced by municipal government were sanitary sewer needs, dump (sanitary landfill) mismanagement, lack of highway connection from the Massachusetts Turnpike to the Connecticut Turnpike, and business concerns relative to the decline in job opportunities.

There were seven church or religious organizations conducting regular services and there was very little crime noted. There were editorial concerns for the unmet needs of the overcrowded schools but also an exhibited pride in the small town atmosphere that was Oxford.

New articles relative to land takings for the Hodges Village Dam and Reservoir provoked minimal negative response from the community. In fact the historical impacts of these events were largely ignored by the community. (5h-1)

In summation, the quality of life was typical small town and most tranquil. However, as has been true of this environment elsewhere, the true cohesiveness of such community life is usually not exhibited unless provoked by a major social or cultural impact on the community, such as the 1955 flooding on the Thames River or construction of a major flood control project. While the former resulted in \$1,600,000 of property damage and prompted an immediate mobilization of the citizens, the latter was hardly noticed in passing.

5h-1 Webster Times, Oxford Edition, random review of editions from 1945 to 1958 and all of 1959, Webster, Massachusetts

D. Projection of Preproject Conditions

6. Socio-Economic Conditions

The projection of the preproject conditions from 1960 to present attempts to determine the direction of Oxford's growth had the Hodges Village Dam and Reservoir not been constructed. Obviously such a retrospective projection must rely on a comparative analysis of growth in surrounding communities, as well as the entire geographic region. Unfortunately, this comparative analysis has limitations in that the identification and quantifications of other short term phenomenon similar to this flood control project in the selected communities, was beyond the scope of this Study.

Within the central Massachusetts region, the communities of Auburn, Dudley, Leicester and Webster were selected for certain comparative analyses of preproject conditional projections in Oxford. Each of these communities geographically abut Oxford; are within the sphere of Worcester's social and market influence; and have historic origins and profiles quite similar to the Town of Oxford. Elsewhere, data from the Worcester SMSA and Central Massachusetts Regional Planning Commission is included for regional comparisons.

a. Population Projections

For the selected comparative communities the population growth since construction of Hodges Village is as follows:

Table 16 (6a-1)
POPULATION GROWTH 1960-1975

<u>Location</u>	<u>1960</u>	<u>1965</u>	<u>5 Yr. Change %</u>	<u>1970</u>	<u>5 Yr. Change %</u>	<u>1975</u>	<u>5 Yr. Change %</u>
Auburn	14,047	15,396	9.6	15,347	-.01	15,625	1.8
Dudley	6,510	6,960	6.9	9,084	16.1	7,857	-2.8
Leicester	8,177	8,701	6.4	9,140	5.0	3,887	-2.8
Webster	13,680	14,357	4.9	14,017	3.9	14,444	-3.2
Average 5 Yr. Percent Change			7.0		6.2		-1.8

The staff of the Central Massachusetts Regional Planning Commission and local planners in each community feel that the strong growth patterns from 1960 to 1970 were based on the availability of inexpensive land for residential development. Since 1970 the cost of land has increased at a faster rate than employment opportunities and consequently there has been an out-migration of population. These factors would be shared by Oxford and therefore utilizing the average Five Year percent change for these communities, Oxford's projected population would have been as follows:

1960	9,282 (Actual)
1965	9,932
1970	10,548
1975	10,358

The median age for the central Massachusetts regional population declined fairly significantly during the 1960's, which is a normal response to the high birth rates experienced during the 1950's. For the Worcester SMSA the 1960 U.S. Census reported the male median age as 31.0 years and the female median age as 34.8 years. The 1970 U.S. Census reported the Worcester County median age as 29.6. In 1960 Oxford's median male age of 25.5 years and median female age of 26.4 were the second youngest in the Worcester SMSA.

Based on the high fertility ratio of Oxford during the 1950's, the projected increase of the median age for the next two decades would be quite marginal. As seen in Table 2 the largest 1960 age group of 5-14 years would have completely reached child bearing age by 1975, thereby continuing the impact of younger forces in the community.

Changes in the ethnicity of Oxford's residents would depend on the immigration groups during the 1950's and 1970's. Following 1955 the exodus of Worcester residents to the suburbs declined and in-migration was made up of people moving within the suburban fringe or from outside the Worcester SMSA (a large proportion of whom were middle income and of mixed ethnic background). (6a-2)

Oxford was becoming a residential community attractive to middle class, potential homeowners during the 1950's. This pattern would have been expected to continue unless the body politic of the Town created significant environmental modifications, either by positive action or neglect of deteriorating community facets such as education, taxes, public facilities, etc.

b. Work Patterns

Data for the work patterns of Worcester County in 1970, when compared to Oxford for 1950 and 1960, indicate that the trends of the 1950's extended into the 1970's. As shown in the following table, the occupational shifting was the continued loss of manufacturing jobs and the increase of service related occupations.

6a-2 Martyn J. Bowden, Ph.D. et al, Expressway and the Town, January 1967
page 5-6

Table 17 (6b-1)

OCCUPATION OF THE EMPLOYED LABOR FORCE
OXFORD 1950 & 1960 VS. WORCESTER COUNTY 1970

<u>Occupation</u>	<u>Oxford 1950 % of Total</u>	<u>Oxford 1960 % of Total</u>	<u>Worcester County 1970 % of Total</u>
Prfsn'l , Tchn'l & kindred wkrs.	6.6	6.2	14.3
Farmers and Farm Managers	0.8	1.4	incl. in next category
Managers, Offs. & Propr's., exc. Farm	8.2	4.6	7.8
Clerical & kindred wkrs.	11.4	12.8	17.3
Sales Workers	5.7	6.0	6.2
Craftsmen, Foremen, & kindred wkrs.	21.8	21.5	14.9
Operatives & kindred wkrs.	35.5	31.1	23.0
Private Household wkrs.	0.7	1.2	0.6
Service wkrs, exc. private household	4.3	6.7	11.9
Farm laborers & foremen	0.7	0.5	incl. in next category
Laborers exc. farm & mine	3.6	2.4	4.0
Occupation not reported	0.7	5.6	Neg.

There is no evidence available that the established work pattern trends of the 1950's would have been altered if Hodges Village had not been constructed. The central Massachusetts area continued to experience a decline in manufacturing following 1960, while gains were being made in the clerical, service and professional categories. Oxford's inability to plan balanced growth patterns would most certainly have resulted in continued residential development which, when coupled with the lack of employment opportunities in the Town, would have exaggerated the exporting of labor pattern, as developed in the 1950's.

c. Education

The demands on the Oxford School System imposed by the increasing enrollment generated from unchecked residential developments and middle class in-migrations would have continued to increase had Hodges Village not been constructed. As noted in Section 5, the land takings for the impoundment included large tracts of developable land adjacent to Route 12.

Oxford Builders, Inc., the developer of Greenbriar, owner and was potentially capable of developing more than 260 acres of this land. (6c-1). It is quite obvious that had this type of development continued at the same pace of the mid 1950's, school enrollment increases would have accelerated. The impacts of accelerated enrollment would have been serious overcrowding, more immediate demands for new high school construction, and possibly the requirement of additional elementary school construction.

Although there is no evidence to suggest that the in-migration groups would have significantly altered the education profile of the entire community, recent experience in Massachusetts suggests that a sizeable minority of residents with higher expectations for the system would have placed stronger demands on the quality of its school system. As noted in Section 5, Oxford had the lowest per pupil expenditures in the State during the early 1960's and was generally summarized as a poor school system.

d. Housing

The pattern of residential construction for the Central Massachusetts Regional Planning District from 1953 to 1967, are shown on the following EXHIBIT (6d-1). As noted in Section 5.d, Oxford's residential construction patterns were similar from 1955 to 1959 except that the peak and initial decline occurred two years later than the regional peak and initial decline. The bottom of the region's residential construction occurred in 1960 and relative growth continued on through 1967

6c-1 Corps of Engineers, U.S. Army, Hodges Village Dam Real Estate Plan, EXHIBIT B, April 1960

6d-1 EXHIBIT I reprinted from CMRPC Statistical Data Book, January 1971

RESIDENTIAL CONSTRUCTION 1953-1967



CENTRAL MASSACHUSETTS REGIONAL
PLANNING DISTRICT

EXHIBIT I

As noted in Section 6.c, the impact of Hodges Village included the taking of 260 acres of developable land owned by Oxford Builders, Inc. If developed residentially the construction of 250 to 300 single family homes in a five year period was possible. Whether or not Oxford's housing construction would have continued to parallel the regional trends, is primarily a function of the community's attractiveness to home buyers. Based on the Profile of the Preproject Conditions there is evidence that the housing growth was the strongest market in the community and with the available land and lack of planning and zoning controls, a resurgence of housing construction in Oxford following the declines noted in 1958 and 1959 could be expected.

Although the timing of such construction would not be predictable, the problems associated with residential construction in flood plain and wetland areas are very predictable. Problems such as drainage, erosion, environmental degradation of wetlands, and the potential public safety hazards, are extremely costly to municipal government. Additionally, the aesthetic value and potential usage for such open space is considered to be a community asset in 1979.

e. Income

Based on projections of the population, housing and work patterns of Oxford without construction of Hodges Village family income in Oxford would continue to compare favorably within the central Massachusetts Region. The following table lists the 1970 median family income for certain regional entities.

Table 18 (6e-1)

MEDIAN FAMILY INCOME CENTRAL MASSACHUSETTS 1970

<u>Location</u>	<u>Median Family Income</u>
Dudley	\$ 8,026
Leicester	\$ 9,086
Webster	\$ 9,418
Worcester County	\$ 8,547
Worcester SMSA	\$10,718

Since Oxford's median family income in 1949 was \$231 less, and in 1959 \$161 less than that of the Worcester SMSA, an arithmetic projection would make the 1970 median family income \$91 less than the 1970 Worcester SMSA. Comparatively this projection means that Oxford's median family income would be in excess of median family income in the towns of Dudley, Leicester and Webster.

f. Economic Activities

In order to project the economic activities and structures of Oxford, had Hodges Village not been constructed, it is necessary to profile the employment features of other municipalities in the central Massachusetts Region as shown in the following tables.

Table 19 (6f-1)

AUBURN EMPLOYMENT 1967-1977

<u>Year</u>	<u>Total Employment</u>	<u>Manufacturing Employment</u>	<u>Percent of Total</u>
1967	2117	617	29.1
1970	2377	569	23.9
1975	4512	1117	24.8
1977	4622	704	15.2

Note: Auburn's total employment growth from 1967 to 1977 was dominated by the Wholesale and Retail Trade sector's gain of 2,156 employed.

Table 20 (6f-2)

DUDLEY EMPLOYMENT 1967-1977

<u>Year</u>	<u>Total Employment</u>	<u>Manufacturing Employment</u>	<u>Percent of Total</u>
1967	962	635	66.0
1970	1191	788	66.2
1975	1331	696	52.2
1977	1542	782	50.7

6f-1 Commonwealth of Massachusetts, Division of Employment Security, Employment and Wages in Establishments Subject to the Massachusetts Employment Security Law 1967-1977, Boston, Massachusetts

6f-2 Ibid

Note: Dudley's total employment growth from 1967 to 1977 was dominated by the Wholesale and Retail sector's gain of 194 employed.

Table 21 (6f-3)

LEICESTER EMPLOYMENT 1967-1977

<u>Year</u>	<u>Total Employment</u>	<u>Manufacturing Employment</u>	<u>Percent of Total</u>
1967	1176	694	59.0
1970	953	432	45.3
1975	1099	441	40.1
1977	1003	357	35.5

Note: Leicester's total employment losses from 1967 to 1977 were mitigated by slight gains in Wholesale and Retail Trade and Services.

Table 22 (6f-4)

WEBSTER EMPLOYMENT 1967-1977

<u>Year</u>	<u>Total Employment</u>	<u>Manufacturing Employment</u>	<u>Percent of Total</u>
1967	5412	3518	65.0
1970	4416	2544	57.6
1975	4555	2376	52.2
1977	4963	2543	51.2

Note: Webster;s total employment losses from 1967 to 1977 were mitigated by the Services sector's gain of 523 employed.

The following table summarizes the employment trends for each of the communities noted above.

6f-3 Ibid

6f-4 Ibid

Table 23
REGIONAL EMPLOYMENT TRENDS 1967-1977

<u>Location</u>	<u>Percent Total Employment Gain (Loss)</u>	<u>Percent Manufacturing Employment Gain (Loss)</u>
Auburn	118.3	14.1
Dudley	60.3	23.1
Leicester	(14.7)	(48.6)
Webster	(8.3)	(27.7)

Collectively, the total employment profile of these four communities is a mixed package. Auburn and Leicester, which are closest to Worcester geographically, and therefore in market influence, experienced totally different patterns of employment from 1967 to 1977. Dudley and Webster, which are south of Oxford, and therefore furthest away from the market influences of Worcester, also experienced totally different patterns.

The logical conclusion to these economic activity profiles is that the Town of Oxford certainly had the opportunities to share some of the growth experienced by Auburn and Dudley, if it chose to do so. This conclusion is supported by the population increases, and therefore labor pool increases of Oxford noted in the 1950's, and the availability of land for industrial and commercial development.

Since Oxford is situated in the center of this mixed pattern the potential of employment growth existed. Any such growth, however, would have required positive action by the Town to attract industrial and commercial development.

g. Land Use

As noted in Section 5.g, there were no local land use plans or zoning controls in Oxford prior to the construction of Hodges Village. It has also been noted that the demand for developable land to support residential construction focused on land adjacent to the Route 12 corridor much of which lay within the impoundment area.

Table 24 presents the land use characteristics developed by MacConnell and Niedzwiedz for the 20 year period 1951 to 1971 in the comparative communities of Auburn, Dudley, Leicester and Webster.

Table 24 (6g-1)
COMPARATIVE COMMUNITY LAND USE
1951 to 1971

<u>Type</u>	<u>1951 Acres</u>	<u>1951 % of Total</u>	<u>1971 Acres</u>	<u>1971 % of Total</u>	<u>Net Change In Acres</u>
Forest Land	27,784	56.2	27,669	56.0	- 115
Agri- culture or Open Land	13,430	27.2	7,647	15.5	-5,783
Wet Land	4,667	9.4	4,143	8.4	- 524
Mining, Waste Disposal	-----	-----	377	0.8	+ 377
Urban Land	3,522	7.2	8,944	18.0	+5,422
Outdoor Recrea- tion	-----	-----	623	1.3	+ 623
Totals	49,403	100.0	49,403	100.0	

As shown in the Table the major changes in land use are the loss of forested, open and wet lands to urbanization.

(6g-1) University of Massachusetts at Amherst, Remote Sensing 20 Years of Change in Worcester County 1951 to 1971, by William P. MacConnell and William Niedzwiedz pg. 58,59,78,79,100,101,160 and 161

Assuming comparable market forces, Oxford, from 1951 to 1971 would have lost 14% or 2,354 acres of forested, open and wetlands to urbanization.

In the 1960's the environmental issues regarding wetland alteration became highly visible and legislation to control such alterations was developed by the Commonwealth of Massachusetts. It is reasonable to assume that the Town would have responded to this legislation and halted residential construction within the impoundment area, as it spread towards the banks of the French River and Cedar Swamp. As noted in Section 5.g, wetlands cover at least 50% of the impoundment area, as shown on the 1953 U.S.G.S. Quadrangle maps.

There is no evidence to suggest that significant land use changes during the 1960's would have occurred elsewhere in the community except for the spreading residential developments closer to the Town center. Into the 1970's the planning and completion of the Route 52 connector from the Massachusetts Turnpike to the Connecticut Turnpike, easterly of Route 12, should have shifted the demands for developable land to the Route 52 corridor. At this time it would be reasonable to assume that efforts to improve the downtown area's attractiveness would become of prime importance to the community. Otherwise, the easy access provided by Route 52 to the market forces in Worcester and the other communities north and south of Oxford would place the Town at a competitive disadvantage for business opportunities.

h. Community Life

Based on the rather tranquil quality of life in Oxford, noted in Section 5.h, and the relatively passive acceptance of the Hodges Village flood control project, it is difficult to expect that community life styles would have experienced any sudden alterations had the pro-

ject not been constructed. The history of the 1960's certainly includes tremendous upheavals at the national level and within the large urban areas of this country. Typically, however, the impacts of the 1960's social revolution bypassed the rural communtiy lifestyle, or was moderated to a more acceptable impact.

During the 1970's the role of municipal government became very important in community life for towns with similar characteristics to Oxford. The ability of local government to enact planning and zoning controls, and attract state and federal grants for public facility improvements has been extremely important to a community's well being. This type of aggressive governmental action was certainly not evident in Oxford prior to 1960, and historically this tone of governmental inactivity would not have bode well for the Town's movement into the 1970's.

E. Profile of Postproject Conditions

7. Socio-Economic Conditions

This section of the study profiles the socio-economic conditions in the postproject Town of Oxford from 1960 to present day. Unfortunately the 1970 U.S. census is the most recent source of much of the information compiled however, the trends provided are quite indicative of the community conditions, and supplemental data from the Commonwealth of Massachusetts and the Town's 1976 Master Plan have been utilized to support the profile.

a. Population, Ethnicity and Population Trends

The extension of Table 1, as presented in Section 5, is shown below for the postproject population changes in Oxford.

Table 25 (7a-1)
OXFORD POPULATION AND POPULATION CHANGE 1960-1975

<u>Date</u>	<u>Popula- tion</u>	<u>Five Year Increase</u>	<u>Five Year Percent</u>	<u>Ten Year Increase</u>	<u>Ten Year Percent</u>
1960	9,282				
1965	10,034	752	8.1		
1970	10,345	211	3.1	1,063	11.5
1975	10,822	477	4.4		

Source: U.S. Census data and U.S. Census and I.R.S. figures.

Supplemented by State census figures for 1975.

Oxford's population increase for 1960-1965 was less than half that of the previous five-year period, and the increase for 1965-1970 was less than half of the 1960-1965 period.

7a-1 Town of Oxford Planning Board, Design for Progress, A Master Plan for the Town of Oxford, David A. Booth, Research Associates
August, 1976, page 26

The increase from 1965 to 1970 (3.1 percent) was comparatively modest, although still indicative of significant growth. From 1970 to 1975, the growth rate increased to 4.4 percent. (7a-2)

From 1960 to 1970 the excess of births over deaths was 1,261 and therefore the out-migration was a modest 198. (7a-3)

The age composition of the Town's population for 1960 and 1970 are shown in the following table.

Table 26 (7a-4)
MAJOR AGE GROUPINGS 1960 - 1970

<u>Age</u>	<u>1960 Population</u>	<u>1960 Percent of Total</u>	<u>1970 Population</u>	<u>1970 Percent of Total</u>
Under 5	1326	14.3	995	9.2
5-14	2233	24.1	2493	24.1
20-34	1743	18.8	5132*	49.6*
35-49	1899	20.5	N/A	N/A
65 and Over	585	6.3	734	7.1

* For age group 20 to 64 on 1970 U.S. Census

The median age of Oxford's males and females in 1960 was 25.5 years and 26.4 years respectively. For 1970 the median age of the total population was 25.5 years.

The data in the above table confirms that the high birth rates of the 1960's carried well beyond the project period and that the Town maintains a fairly young mixture of people. The decline in the under 5 age group parallels known state trends of declining birth rates during the late 1960's and throughout the 1970's.

7a-2 Ibid. page 27

7a-3 U.S. Census Bureau

7a-4 Ibid.

The ethnic makeup of Oxford in 1960 and 1970 is shown in Table 27.

Table 27 (7a-5)

FOREIGN BORN, FOREIGN STOCK, COUNTRY OF ORIGIN 1960-1970

<u>Classification or "Country of Origin"</u>	<u>1960 Population</u>	<u>1960 % of Total</u>	<u>1970 Population</u>	<u>1970 % of Total</u>
Foreign Born	359	3.9	311	3.0
Foreign Stock	2382	25.7	2200	21.3
Native	<u>6511</u>	70.4	<u>7834</u>	75.7
"Canada"	1120		979	
"Eire"	166		81	
"Italy"	89		75	
"Sweden"	136		147	
"Poland"			213	
"U.K."			176	

The racial mix in 1960 listed 9 Negro and 10 other non-whites which represents 0.2% of the total population. In 1970 there were 23 Negro and 27 other non-whites which represents 0.5% of the total population.

The minor shifts in the ethnic makeup shown above suggest that in-migration experienced by the Town has continued to consist of similar groups.

The major factor impacting the population changes in the past two years was the completion of Route 52 into Interstate 290. This direct link to Worcester now provides a 15 minute commute to downtown Worcester.

7a-5 Ibid.

b. Work Patterns

In 1960 the total civilian labor force in Oxford was 3,462 which represented 37.3% of the total population. In 1970 the civilian total was 4,227 which represented 40.9% to the total population. Table 28. presents the occupational categories of the employed labor force in 1960 and 1970.

Table 28 (7b-1)
OCCUPATION OF THE EMPLOYED LABOR FORCE 1960-1970

<u>Occupation</u>	<u>1960</u>	<u>% of Total</u>	<u>1970</u>	<u>% of Total</u>
Professional, Techn'l & kindred wkrs.	202	6.2	400	9.8
Farmers and Farm Managers	46	1.4	incl. in next category	
Managers, Off. & Propr's. exc. Farm	148	4.6	252	6.2
Clerical & kindred wkrs.	423	12.8	680	16.6
Sales Workers	199	6.0	239	5.9
Craftsmen, Foremen, & kindred wkrs.	710	21.5	639	15.7
Operatives & kindred wkrs.	1028	31.1	1181	28.9
Private Household wkrs.	41	1.2	5	0.1
Service wkrs., exc. private household	221	6.7	515	12.6
Farm laborers & foremen	18	0.5	incl. in next category	
Laborers exc. farm & mine	78	2.4	170	4.2
Occupation not reported	184	5.6	0	0
Total Employed	3298	100.0	4081	100.0

7b-1 U.S. Census Bureau

Table 29 lists the industry of the employed labor force for 1960 and 1970.

Table 29 (7b-2)
INDUSTRY OF THE EMPLOYED LABOR FORCE 1960-1970

<u>Industry</u>	<u>1960</u>	<u>% of Total</u>	<u>1970</u>	<u>% of Total</u>
Agriculture, Forestry & Fisheries	64	1.9	45	1.1
Mining	0	0	6	0.1
Construction	174	5.3	257	6.3
Manufacturing	1648	50.0	1622	39.8
Transport., Commun. & other Public Util.	187	5.7	163	4.0
Wholesale & Retail Trade	468	14.2	875	21.4
Business & Repair Service	45	1.3	62	1.5
Personal Service	94	2.9	53	1.3
Professional & Re- lated Service	236	7.2	880	21.6
Public Administration	79	2.4	118	2.9
Industry not reported	303	9.1	0	0
Total Employed	3298	100.0	4081	100.0

It is quite clear that manufacturing, although in a decline, continued to dominate the work patterns in Oxford following construction of Hodges Village. Marginal declines are noted in the manufacturing occupations and sizeable increases are noted in professional, clerical and service worker categories.

7b-2 Ibid

Table 30 lists the employment patterns for selected years in Oxford since 1959.

Table 30 (7b-3)
TOTAL ANNUAL PAYROLL, NUMBER OF ESTABLISHMENTS,
AVERAGE ANNUAL EMPLOYMENT BY INDUSTRY
1960-1977

<u>Year</u>	<u>Annual Pay- roll (000)</u>	<u># of Estb.</u>	<u>Total Empl.</u>	<u>Agric. Fores- try</u>	<u>Cont. Const.</u>	<u>Mfg.</u>	<u>Trans. Util.</u>	<u>Whole & Ret. Trade</u>	<u>Services</u>
1960	\$2057	104	578	0	100	248	7	178	45
1961	1582	103	424	0	94	104	7	174	45
1962	1794	111	481	0	103	161	8	173	36
1963	2159	113	555	0	98	217	6	188	46
1964	2637	117	628	0	120	260	8	193	47
1965	2903	111	687	0	126	305	9	191	56
1970	3557	115	722	11	105	229	12	210	155
1975	5565	126	809	6	67	315	27	171	223
1977	7071	131	896	6	73	385	15	204	213

This data illustrates the slight resurgence of manufacturing employment in the 1970's following more than fifteen years of decline, and the steady gains made in professional employment.

A comparison of the 1970 total employed labor force of 4,081 vs. 722 jobs available in Oxford reveals that the Town continues to be an extensive exporter of labor.

7b-3 Commonwealth of Massachusetts, Division of Employment Security,
Employment and Wages in Establishments Subject to the Massachusetts
Employment Security Law, Boston, Massachusetts

C. Education

The U.S. Census reporting for the educational profile of Oxford in 1960 is shown in Table 7. Below, Table 31 lists the 1970 profile.

Table 31 (7c-1)
YEARS OF SCHOOL COMPLETED 1970

<u>Persons 25</u> <u>Yrs. & Over</u>	<u>1 Yr. or More</u> <u>College</u>	<u>Percent</u>	<u>4 Yrs. or Less</u> <u>of School</u>	<u>Percent</u>	<u>Median</u> <u>School Yrs.</u> <u>Completed</u>
6208	679	10.9	74	1.1	11.8

Although improving statistically from the 1960 U.S. Census, the Town's population does not include a significant number of persons with educational levels beyond the public system offered by the Town.

Table 32 (7c-2)
TOTAL SCHOOL ENROLLMENT 1960-1975

<u>Year</u>	<u>School Enrollment</u>	<u>Percent Greater</u> <u>than 1960</u>
1960	2296	
1965	2681	16.8
1968	3023	31.7
1969	3060	33.3
1970	3033	32.1
1975	2842	23.8

The demands on the school system resulting from the extensive home building and in-migration of the 1950's were obviously not muted until the latter part of the 1960's. As noted by the Town's consultant John E. Marshall in 1965, the immediate needs of constructing a new high school and converting the existing high school to a middle school (grades 6 and 7), are a result of housing construction and in-migration activities.

7c-1 U.S. Census Bureau

7c-2 Oxford Town Reports 1960 to 1975

Subsequently the Town constructed a new high school to accommodate overcrowded conditions. Since construction, high school enrollments leveled off in excess of 1000 students from 1969 to 1975, while total enrollment decreased by 200. (7c-3)

d. Housing

Housing construction continued rather strongly in Oxford following construction of Hodges Village. The number of residences constructed increased during each 5 year period as follows:

Table 33 (7d-1)
RESIDENTIAL CONSTRUCTION 1960-1975

<u>Year</u>	<u>Residential Construction</u>
1960-1964	106
1965-1969	122
1970-1974	235
1975	167

The year 1975 was especially significant in that the United States was experiencing a housing recession and the Town of Oxford was obviously experiencing a housing boom.

Multi-family dwellings were also being constructed in the 1970's most notably Thayer Village, north of Route 20, with 168 units and the low-income complex of Orchard Hill, with 220 units. (7d-2)

7c-3 Ibid

7d-1 Building Permits

7d-2 Town of Oxford Planning Board, Design for Progress, A Master Plan for the Town of Oxford, David A. Booth Research Associates August, 1976, page 44

In the 1970 Census there were 2,904 housing units available in Oxford, 12.0% of which were built from 1960 to 1970, 31.4% built from 1950 to 1960, 11.7% built from 1940 to 1950, and 44.9% predating 1940. (7d-3)

Other parameters of the housing conditions noted in the 1970 Census are as follows:

Table 34 (7d-4)

TENURE AND VACANCY STATUS 1970

Owner Occupied	72.4%
Renter Occupied	23.8%
Available Vacant	1.9%
Other Vacant	1.9%

Table 35 (7d-5)

VALUE OF OWNER OCCUPIED UNITS 1970

Median Value	\$16,300
Value less than \$10,000	8.7% of Units
Value \$10,00 to \$20,000	70.2% of Units
Value greater than \$20,000	21.1% of Units

Table 36 (7d-6)

GROSS RENT (INCLUDES GAS, WATER, ELECTRICITY) 1970

Median Rent	\$116.00 per month
Less than \$60	2.4% of Units
\$60 to \$100	29.1% of Units
\$100 to \$149	52.7% of Units
Greater than \$149	15.8% of Units

-
- 7d-3 U.S. Census Bureau
 - 7d-4 Ibid.
 - 7d-5 Ibid.
 - 7d-6 Ibid.

All of these parameters indicate that the housing market was quite strong following construction of Hodges Village and that quality construction was increasing the value of owner occupied units.

e. Income

Family income for Oxford in 1969 is reported in the 1970 U.S. Census as follows:

Under \$3,000	126 Families
\$3,000 to \$6,000	216 Families
\$6,000 to \$10,000	754 Families
\$10,000 To \$15,000	999 Families
Over \$15,000	420 Families
Total	2515 Families

The median family income in 1969 was \$10,021. In 1959 the median family income was \$5,897. For the 10 year period following construction of Hodges Village the median family income increased by 69.9%.

For 1969, Oxford's median family income was \$697 less than the Worcester SMSA median family income of \$10,718. In 1959 the median family income was \$161 less than the Worcester SMSA median family income of \$6,058. (7e-1)

f. Economic Activities and Structures

The economic structure of Oxford has not changed significantly since construction of Hodges Village. The Town continues to be an exporter of labor and housing construction continues to dominate the expansion of the tax base.

The following table illustrates that since 1960 the assessed valuation of the Town continued to increase at a rather slow pace. Employment opportunities within the Town, however, have seen a resurgence since 1960.

Table 37

TAX ASSESSMENT, RESIDENTIAL CONSTRUCTION
AND OXFORD EMPLOYMENT 1960-1977

<u>Year</u>	<u>Assessed Valuation (7f-1)</u>	<u>Tax Rate (7f-2)</u>	<u>Residential Construction (7f-3)</u>	<u>Total Employment (7f-4)</u>	<u>Manufacturing Employment (7f-5)</u>
1960	\$14,334,330	\$ 54	14	569	248
1965	\$15,521,170	\$ 67	16	683	305
1970	\$18,815,380	\$108	29	722	229
1975	\$21,186,410	\$118	167	809	315
1977*	\$107,556,960	\$36	59	896	385

* Town reassessed to 100% valuation

In 1978 the Town categorized the commercial and industrial assessment as follows:

Table 38 (7f-6)

TAX ASSESSMENTS 1978

<u>Total Valuation</u>	<u>Commercial Valuation</u>	<u>Percent of Total</u>	<u>Industrial Valuation</u>	<u>Percent of Total</u>
\$108,427,430	\$7,908,300	7.3	\$4,179,990	3.9

The percentage of commercial and industrial tax assessment is approximately one half of the statewide averages, which again illustrates the dominance of the housing assessments and the disadvantages faced by residential property owners in Oxford who share this tax burden.

7f-1 Oxford Annual Town Reports

7f-2 Ibid

7f-3 Ibid

7f-4 Commonwealth of Massachusetts Department of Revenue, Mass. Cities and Towns Employment and Wages, 1958 to 1966, Boston, Massachusetts

7f-5 Ibid

7f-6 Town of Oxford Board of Assessors

With the completion of State Route 52 in the past few years, Oxford's accessibility to markets is enhanced significantly. However, as of now, there are no apparent efforts in the Town to create business or industrial opportunities adjacent to this highway section that would be a significant generator of change in the Town's economic structure.

In accord with the legislative acts promulgated for construction of the Hodges Village Dam and Reservoir and others, the Thames River Valley Flood Control Commission was established. One of the charges of the Commission was to determine annually the loss of taxes resulting to political subdivisions of the Commonwealth from rights or other property acquired in connection with each flood control dam. The State of Connecticut, following notification of the assessment value, reimburses the Commonwealth for 40% of the amount of annual losses. Massachusetts in turn, reimburses the local communities.

The following lists the actual amount of reimbursement received by the Town of Oxford since the construction of Hodges Village:

Table 39 (7f-7)

TAX LOSS REIMBURSEMENTS 1959-1968

<u>Year</u>	<u>Reimbursement</u>	<u>Year</u>	<u>Reimbursement</u>
1959	\$ 4,946.99	1969	\$ 30,778.16
1960	17,145.04	1970	28,655.53
1961	258,989.00	1971	34,758.10
1962	23,199.08	1972	31,241.71
1963	16,981.06	1973	34,230.04
1964	16,981.06	1974	30,910.04
1965	N/A	1975	32,056.71
1966	16,981.05	1976	35,045.04
1967	19,369.01	1977	9,780.01
1968	23,879.61	1978	33,098.05

7f-7 Thames River Valley Flood Control Commission, Mr. Charles Kennedy, Boston, Massachusetts, 1978

Exclusive of 1965 the total reimbursement for the 20 years listed above is \$699,025.29. On an annual basis this reimbursement accounts for approximately 1.0% of the Town's tax revenues.

g. Land Use

The 1976 Master Plan for the Town of Oxford listed the following points to characterize general land use problems in the Town.

- ° Existing open spaces are generally unused or under used, neglected, and overgrown.
- ° There is no recreational space in the downtown section, aside from school grounds for the use of children or young people.
- ° The town contains few public gathering spaces.
- ° The central business district, which is mainly devoted to high density business and commercial activity, is generally unattractive and lacks a strong sense of identity. The lack of attractive and diverse shopping opportunities means that it is unable to act as a catalytic force to those who live in the outlying areas of the Town.
- ° There are no genuine commercial districts in Town, which means that Oxford residents tend to do their shopping elsewhere.
- ° Several of the Town's water bodies are now, or soon will be, threatened by the forces of urbanization and development.

A review of the 1969 U.S.G.S. Quadrangle reveals the spread of urban land in the downtown section versus the 1953 maps. Along the north-south Route 12 corridor, branches of residential construction have occurred from the Webster Town Line to North Oxford. Other scattered residential developments are also noted on the 1969 maps.

To the west and south of Hodges Village there are extensive residential developments that are not shown on the 1969 maps.

The Remote Sensing Land Use Classification developed by MacConnell and Niedzwiedz, and presented in Section 5, was based on aerial photos of the Commonwealth taken by the Department of Natural Resources and superimposed on U.S.G.S. Quadrangles.

For Oxford the land use classifications were as follows:

Table 40 (7g-1)
OXFORD LAND USE 1951-1971

Type	1951 Acres	1951 % of Total	1971 Acres	1971 % of Total	Net Change In Acres
Forest Land	11,508	65.9	11,922	68.2	+ 414
Agriculture or Open Land	4,239	24.2	2,719	15.6	-1520
Wet Land	1,069	6.1	722	4.1	- 347
Mining, Waste Disposal	-----	-----	186	1.1	+ 186
Urban Land	664	3.8	1,767	10.1	+1103
Outdoor Rec- reation	-----	-----	164	0.9	+ 164
Totals	17,480	100.0	17,480	100.0	

Since the impoundment area was not categorized, the major changes in land use are the loss of open and wet land to additional forestation and urbanization. Although this twenty years of change is bisected by the construction of Hodges Village, it must be noted that urban land acreage tripled from 1951 to 1971. Should this pattern be continuing today, Oxford will surely be transformed from a rural community to an unplanned urban place.

7g-1 University of Massachusetts at Amherst, Remote Sensing 20 Years of Change in Worcester County 1951 to 1971, by William P. MacConnell and William Niedzwiedz, page 124 and 125

The first proposals for a zoning By-Law in Oxford were prepared by the Planning Services Group of Cambridge in 1962. However, it was not until 1968 that a By-Law was officially enacted. As enacted, the major commercial/industrial zones are centered along the Route 12 corridor. Except for several scattered commercial/industrial zones, the remaining land in Oxford, including the Hodges Village impoundment area, is zoned residential.

The 1976 "Design for Progress" Master Plan, prepared by Booth Research Associates, provided the first planning vehicle in Oxford for evaluation of land use constraints considering topography, wetlands and soil types. A physical constraints map was developed to supplement the Master Plan and recommendations to strengthen zoning controls were also made. Reviewing the physical constraints map reveals that approximately 25% of the Town land has severe constraints for development, approximately 25% is the least constraining and the remaining 50% is only moderately constrained.

Obviously, the Town of Oxford has thousands of acres of land that is developable should the market forces of Central Massachusetts demand such action.

h. Community Life

The quality of community life in Oxford since 1960 has not significantly deviated from the small town rural environment that existed prior to construction of Hodges Village. The 1976 Master Plan for Oxford summarized four community surveys and polls taken from 1973 to 1976 by various groups in the Town. (7h-1)

7h-1 Town of Oxford Planning Board, Design for Progress, A Master Plan for the Town of Oxford, David A. Booth Research Associates, August, 1976, page 19

The composite portrait of community attitudes developed, stressed the following points:

1. Evidence of dissatisfaction with:
 - the messy rundown center of Town
 - lack of shopping facilities
 - inadequate downtown parking
 - uncontrolled housing development
 - inadequate employment opportunities and low wage jobs
 - high tax rate
 - narrow scope of recreational programming
2. Some Suggestions of Town needs offered by those polled
 - 49% felt more jobs were needed
 - 33% felt downtown improvements were needed
 - 10% felt more open space was needed
3. Other expressed desires
 - more than 50% desired stable population and slower and more controlled growth.
 - 67% felt historical assets should be preserved
 - 40% felt the Town should try to acquire open space
 - refinement of zoning and control of urbanization (7h-2)

From the results of this survey, one must conclude that Oxford is a classic case of a small town that wishes to retain its essential character with a stable population, rural character, air of informality, and emphasis on easy informal personal contacts. At the same time, people want the facilities that are associated with suburban living--conveniences such as good services, water and sewers, good schools, plenty of jobs that pay well, good reliable professional police and fire protection, and strong planning and zoning. (7h-3)

Although the desires of the Town are quite positive and demonstrate the sincerity and rationality of its people, the current activity level tends to indicate a certain lack of commitment towards realization of these desires.

7h-2 Ibid page 19 to 23

7h-3 Ibid page 24